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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,275	06/26/2006	Hisashi Yoshimura	1035-603	3147
23117	7590	10/05/2007		
NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203			EXAMINER ZIMMERMANN, JOHN P	
			ART UNIT 2861	PAPER NUMBER
			MAIL DATE 10/05/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/550,275		YOSHIMURA ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	John P. Zimmermann		2861	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 September 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) 3-7,9-11 and 13-33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,8 and 12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 September 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                        |                                                                   |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/23/05 6/26/06 2/5/07 6/20/07</u> .                          | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Election/Restrictions*

1. **Claims 13, 15-33 & 14** are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Group II & Group III, there being no allowable generic or linking claim.
2. Additionally, **Claim 10** is withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Species I, B, there being no allowable generic or linking claim.
3. Additionally, **Claims 3-7, 9 & 11** are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Species I, B, (1 or 2), {b, c, d or e} there being no allowable generic or linking claim.
4. Election was made **without** traverse in the reply filed on 19 September 2007.

### *Priority*

5. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d).

### *Drawings*

6. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: #22d [Specification, Page 16]. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing

Art Unit: 2861

sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

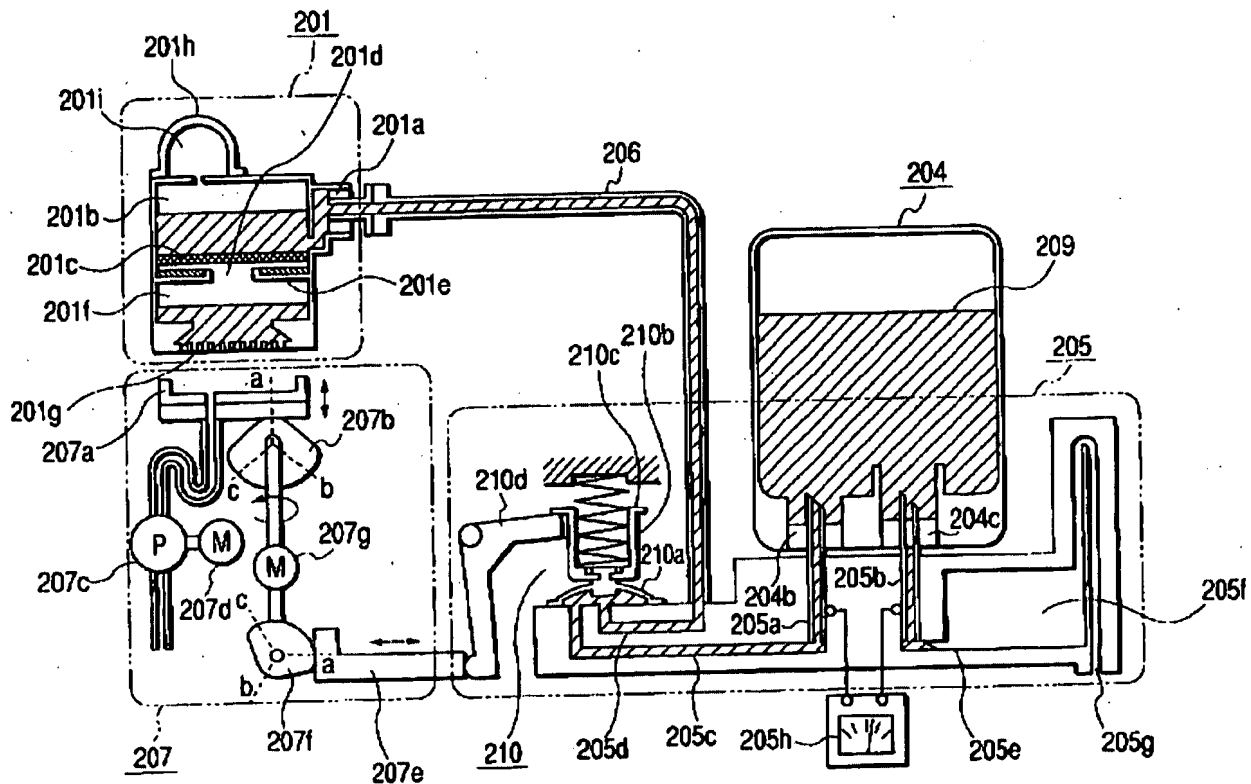
(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. **Claims 1, 2, & 12** are rejected under 35 U.S.C. 102(e) as being clearly anticipated by **Yamanaka et al.**, (US 6,805,437 B2).

a. As related to independent **claim 1**, Yamanaka et al. teach an ink supply device [i.e. system] (Yamanaka et al. – Figure 2, shown below), which includes an ink tank for containing ink therein (Yamanaka et al. – Figure 2, Reference #204 & #209, shown below) and a tank holder [i.e. supply unit] for holding the ink tank in a detachable manner (Yamanaka et al. – Figure 2, Reference #205, shown below), wherein the tank holder includes pressure control means [i.e. hollow air introducing needle] for allowing the ink and air to circulate between the tank holder and the ink tank (Yamanaka et al. – Figure 2,

Reference #205b, shown below) so that an internal pressure of the attached ink tank has a predetermined value (Yamanaka et al. – Description, Column 13, Lines 5-10 and Column 14, Lines 20-23).

**FIG. 2**



b. As related to dependent **claim 2**, Yamanaka et al. teach the pressure control means includes a pressure control chamber [i.e. buffer chamber] (Yamanaka et al. – Description, Column 13, Line 21 and Figure 2, Reference #205f, shown above) for storing the ink and the air that has flowed out from inside of the ink tank.

c. As related to further dependent **claim 12**, Yamanaka et al. teach capacities  $V_s$  [i.e. buffer chamber volume or  $V_b$ ] and  $V_t$  [i.e. ink main tank volume or  $V_{mt}$ ] satisfy the following formula:  $0.1 \leq V_s/V_t \leq 0.3$  where  $V_t$  is the capacity of the ink tank and  $V_s$  is

Art Unit: 2861

the capacity of the pressure control chamber (Yamanaka et al. – Description, Column 14 Lines 18-24). To further exemplify the teachings of Yamanaka et al. as related to the current claim: If the environmental use condition temperature range is 5° C to 40° C,  $V_s/V_t$  [i.e.  $V_b/V_{mt}$ ] is equal to 0.118, which adequately falls in the claimed range.

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

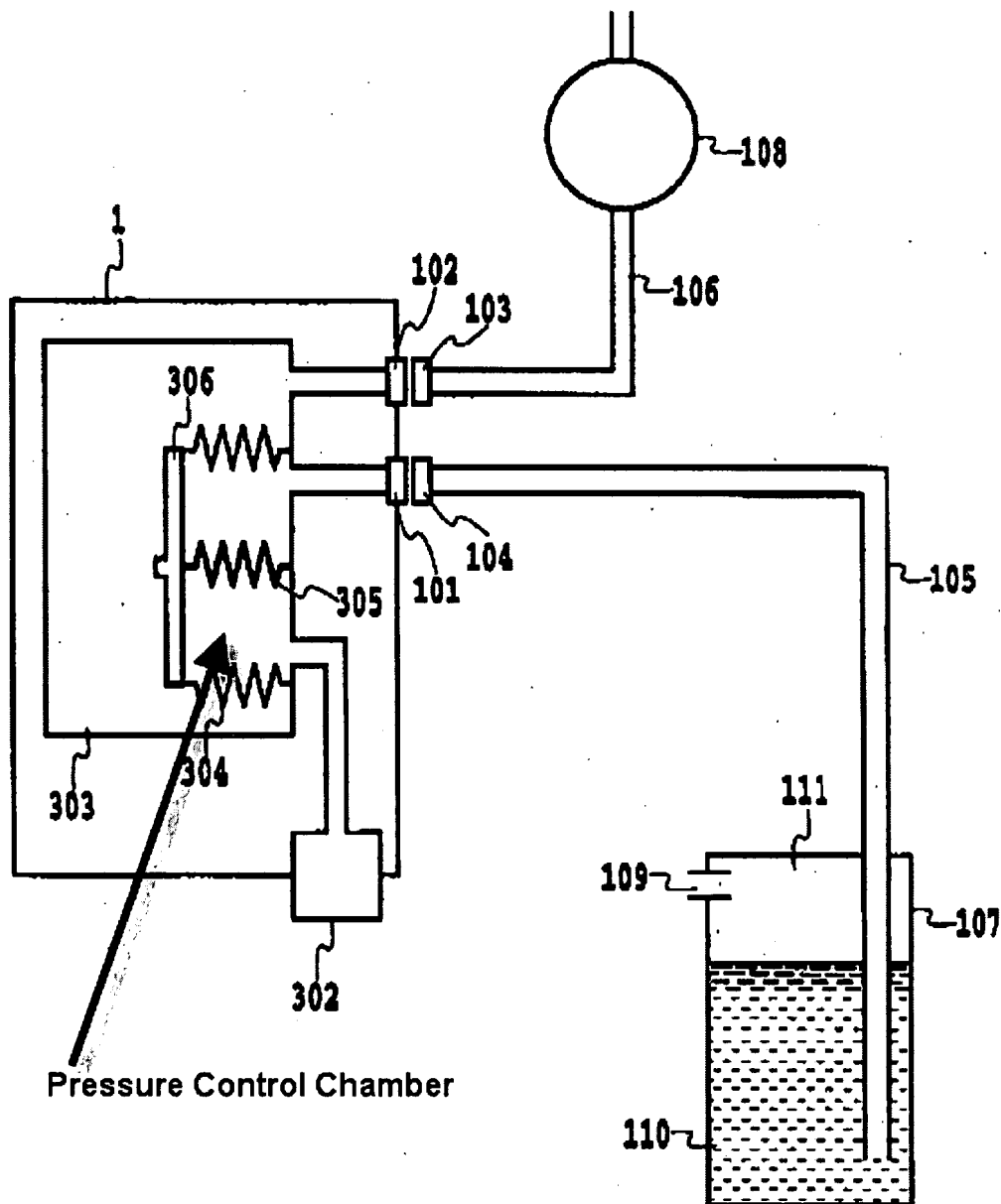
11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

Art Unit: 2861

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Yamanaka et al.**, (US 6,805,437 B2) and further in view of **Yoshida et al.**, (US 6,783,215 B2).

Yamanaka et al. teach the limitations of **claims 1 & 2** for the reasons above but *do not* specifically teach at least a part of a side surface of the pressure control chamber made of a biasing member. *However*, Yoshida et al. teach an ink supply system with a pressure control chamber that includes at least a part of a side surface made of a biasing member (Yoshida et al. – Figure 4, Reference #1, #305 and Arrow, shown below), which biases another surface so that the capacity of the pressure control chamber becomes larger (Yoshida et al. – Figure 4, Reference #306, shown below).



**FIG. 4**

Given the same field of endeavor, specifically a liquid or ink supply system and method with a pressure control chamber, it is apparent that one of ordinary skill in the art at the time the invention was made would have been motivated to combine the ink supply



system with a pressure control chamber incorporating a gravity volume control system as taught by Yamanaka et al. with the ink supply system with a pressure control chamber incorporating a biasing device volume control system as taught by Yoshida et al., in an effort to balance the pressurization of the control chamber and provide negative pressure as needed (Yoshida et al. – Abstract).

### ***Conclusion***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yoshida (US 2003/0011668 A1) teaches an ink supplying apparatus and method, which includes a pressure control chamber with a biasing member. Ishinaga et al. (US 2003/0067518 A1) teach an ink supply apparatus with a biasing member used to change the volume of the pressure control chamber.

14. ***Examiner's Note:*** Examiner has cited particular Figures & Reference Numbers, Columns, Paragraphs and Line Numbers in the references as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in their entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

Art Unit: 2861

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Zimmermann whose telephone number is 571-270-3049.

The examiner can normally be reached on Monday - Thursday, 7:00am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Luu can be reached on 571-272-7663. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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**MATTHEW LUU**  
**SUPERVISORY PATENT EXAMINER**